A

PROJECT REPORT ON

GoFarm A2 Milk

An Online Milk Distribution Management System

SUBMITTED IN PARTIAL FULFILLMENT OF DIPLOMA IN ADVANCED COMPUTING (PG-DAC)



UNDER THE GUIDANCE OF Mr. Vinu Josy

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AT

CENTER FOR DEVELOPMENT OF ADVANCED COMPUTING

C-DAC, PUNE

ACKNOWLEDGEMENT

The project "GoFarm A2 Milk" was a great learning experience for us and we are submitting this work to Advanced Computing Training School (C-DAC ACTS, Pune).

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We are highly grateful to P. R., Manager of ACTS Training Centre, CDAC, for their guidance and support whenever necessary during the course of our journey to acquire PG-Diploma in Advanced Computing (PG-DAC) through CDAC ACTS, Pune.

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From:

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TABLE OF CONTENTS

- 1. INTRODUCTION
- 2. PRODUCT OVERVIEW AND SUMMARY
 - 2.1. Purpose
 - 2.2. Scope
 - 2.3. Overview
 - 2.4. Feasibility Study
- 3. REQUIREMENTS FULFILLED
 - 3.1. Functional Requirements
 - 3.2. Non-Functional Requirements
- 4. PROJECT DESIGN
 - 4.1. Data Model
 - 4.2. Functional Decomposition Diagram
 - 4.3. Use Case Diagram
 - 4.4. Activity Diagram
 - 4.5. Project Architecture
- 5. PROJECT SCREENSHOTS
 - 5.1. Customer
 - 5.2. Delivery Agent
 - 5.3. Admin
 - 6. TESTING

- 7. CONCLUSION
- 8. FUTURE SCOPE
- 9. REFERENCES

ABSTRACT

Milk - The product which is an essential part of our day to day life, but in our busy life schedule it is hard to maintain the record of daily consumption, bills, to demand extra, to ask for leave, to search for offers, to be at home and get best quality of milk we here with the help of GoFarm A2 Milk comes up with the solution.

In our project we aim to provide a good experience to user, as well as it will be easy for delivery agents to track their daily order, where user can order milk from home and will get delivered.

1. INTRODUCTION

We can't imagine our day without milk and for some of us like without a good tea. From new born baby to grown adults everyone requires milk. Our favourite sweets are made of milk, paneer, cheese are some of most used products are also made of milk. For our physical as well as mental growth we all require to drink milk.

Some of milk distributors are nowadays selling milk with water and if you are in a big city like Mumbai, Pune then it is quite hard to find a reliable milk distributor and if somehow we find one of the distributor then they may sell milk at price that they want, and again one of main concern is that they can manipulate the rate as they want. For all this problems we come up with GoFarm A2 Milk.

Online Milk distribution system is digital platform that allows customers to access the service of business, do subscribe using your id and password, ask for quantity of milk and if need extra then ask and get order daily at your desired address. This platform will provide details such as what is current cost of milk per litre, what are offers if running, your billing history and unbilled summery and can ask for leave if require.

An online milk distribution system involves interaction between representatives of business and customer. Both parties have access to system but they both can access in different ways i.e. they both have different roles to play. The business representatives access the system as administrators (admins) while the customers access the system as registered users.

From customer point of view the customer can go through app, can see rate of milk billing history, can demand for extra, can ask for leave. Customers can also demand to change in delivery address if they shift from one location to another.

From admin point of view, the admins can change the rate of milk, manage customers, manage delivery agents, manage managers, they can also manage the offers during festival.

2. PRODUCT OVERVIEW AND SUMMARY

2.1. PURPOSE

Our project "GoFarm A2 Milk", is web-based online milk distribution system which aims to provide users with an easy to navigate and visually appealing medium to get details about milk distributor and can get subscription if want.

2.2. SCOPE

"GoFarm A2 Milk" aim to deliver a web-based application that can get user to see details of milk and prices. Customers can register their profile, sign in and then can get subscription if they are happy with price. Once they done they can logout of their profile. Admins can manage customers, delivery agents as well as managers, price of milk per litre, offers if he want to give.

This project does not support the payment system. We are assuming that the organization will use other third party app for online payment and can pay with cash directly by giving it to delivery agents. GoFarm is only interface for both customers (for seeing price of milk and services and register if pleased) and admins (for managing customers, managers, delivery agents, price of milk).

2.3. OVERVIEW

A. TECHNOLOGIES USED

i. FRONT END

- Bootstrap
- Router-Dom
- React
- Axios

ii. BACK END

SpringBoot

iii. DATABASE MANAGEMENT SYSTEM

MySql

B. FEATURES PROVIDED

i. FOR CUSTOMERS

- a. Browse Customers can browse the homepage to explore check the price of milk, other service provided and can register if he/she happy.
- b. Register, Login & Logout -- New customers can register on the site. Existing customers can then login to access their account information and logout when the account is not in use.
- c. View Profile When logged in, customers can view their profile.
- d. Choose quantity of milk in litres—If customers like the price system and services, then they can select the quantity of milk they want and can also ask for leave.
- e. Choose address -- Once customer login and if after some days he/she wants to shift from one place to another they can ask delivery in different address.
- f. Billing history -- Customer can view their billing history and can have track of their bills.

ii. FOR ADMINS

- a. Login & Logout Similar to customers, admins can login & logout to access their account.
- b. Add New Offers Admin can add offers if they want to attract new customers.
- c. Manage customers, delivery agents and managers The admin can edit, delete or update any details of Customers, delivery agents and managers he needed.
- d. Grant leave Admin can grant leave demand by customers.
- e. Delete Movie Details Often movies need to be deleted after their showings are over. In such cases, the admins can delete those movie details to reflect the change on the application.

iii. FOR DELIVERY AGENTS

- a. Today Order Delivery agent can see his todays orders, the quantity of packets to deliver, where to deliver extra milk.
- b. Arrange Line If new Customers added/subscribe then its delivery agent's job to give a sequencer no to that customer which will make it easy for him to delivery.
- c. Approve Customer To approve newly added customer.
- d. Agent Bill To confirm the amount of bill for customer generated, review it and receive the payment via cash.

2.4. FEASIBILITY STUDY

Feasibility is the determination of whether a project is worth undertaking or not. Before actually recommending the new system, it is important to investigate if it is feasible to develop it.

Before developing and implementing a system, we have to make sure that the system is feasible in the following ways:

A. TECHNICAL FEASIBILITY

In this type of feasibility study, the system analyst has to check whether it is possible or not to develop the requested system with the available manpower, software, hardware, etc.

This project makes use of cross-platform software and solutions like Spring-Boot, React and hence can run on any operating system. React, used in front-end, is swift and light weight framework when it comes to delivering the requested page as it doesn't reload the entire page for every HTTP request. It only re-enders the components that need to fetch new data. Also, as React is modular in nature, it is easy to develop new components and scale up existing components in order to add new features to the system. The Spring-Boot for backend make for a fast, easy to set-up and reliable system to interact with the database, as they are secure and transactional in nature. Since the sensitive data of customers and admins need to be stored in a robust and secure database, MySql database management system was chosen as it is an industry standard.

B. OPERATIONAL FEASIBILITY

In this type of feasibility study, the operation of the system is considered. An analysis is performed on whether it is feasible for the user department to use the application. Thus, the proposed system is said to be operationally feasible only if clients are able to understand the system clearly and correctly, and can use it with ease.

In the design of this project, we always kept user experience in mind. We made an effort to have a good user interface with consistent theme and alluring design to keep the users interested and engaged. In our project, the use of universally known icons and instructions that are easy to understand makes sure that the user will not need any special technical know-how to use the application. We made sure that the information available throughout the application is arranged in a logically coherent and consistent manner, guaranteeing that the users will have a smooth and effortless experience and even enjoy using the application.

C. ECONOMIC FEASIBILITY

In this type of feasibility study, the benefits of the system to the organization are considered by taking into consideration the cost-benefit analysis. All the software and technologies used in our project are free, open-source, and widely available, with each of the technologies having an extensive community support. This makes "GoFarm A2 Milk" an economically feasible solution to the organizations that wish to implement it.

3. REQUIREMENTS FULFILLED

3.1. FUNCTIONAL REQUIREMENTS

Following are the functional requirements fulfilled by our project:

- Customers can browse through application and can see price of milk per litre and offers for him.
- Customer if likes services provided then he can register.
- Customers can choose initial date and final date to check the billing history.
- Customers can ask to updates their details, if there is any change.
- Admins can manage Customers, Delivery Agents and Managers.
- Admins can show the offers available.
- Admin can change the price of milk per litre.
- Admins can delete offers if, offer duration end.

3.2. NON-FUNCTIONAL REQUIREMENTS

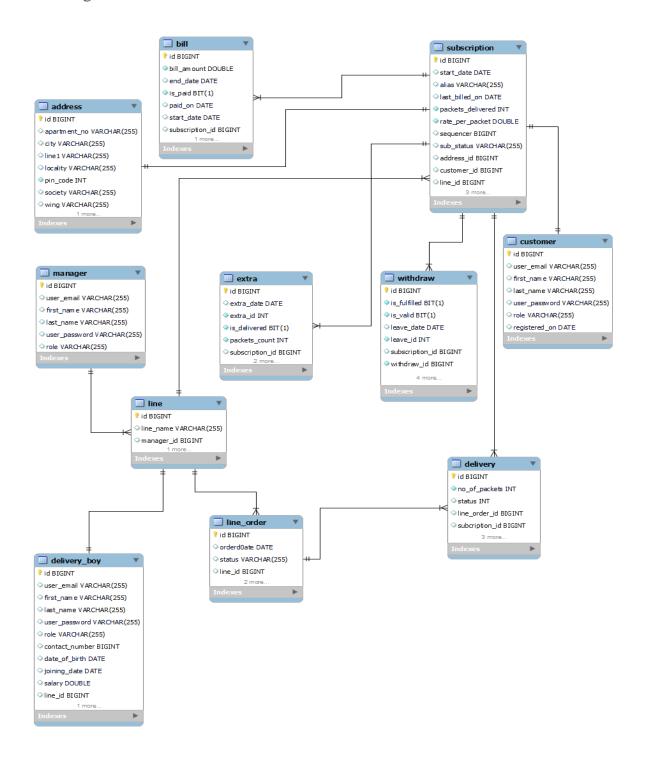
Following are the non-functional requirements fulfilled by our project:

- Since the application uses lightweight and established software components that are also cross-platform, it is remarkably performant and has good support for every operating system.
- The use of React for front end and Spring-Boot for back end delivers quick response times to admins and customers alike.
- Card-style User Interface and well-known icons and symbols used throughout the application provides a consistent theme and userfriendly interface that anyone can grasp easily, even without a technical background.

4. PROJECT DESIGN

4.1. DATA MODEL

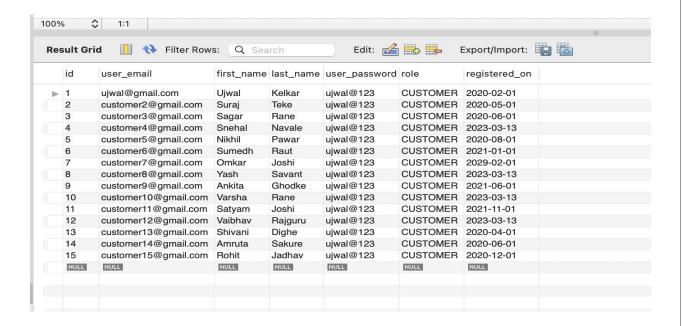
ER-Diagram:



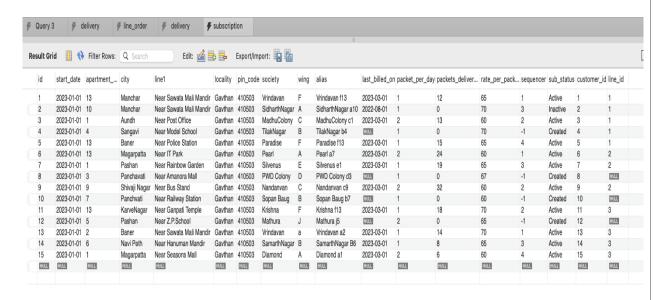
A. Database Tables

a. Users

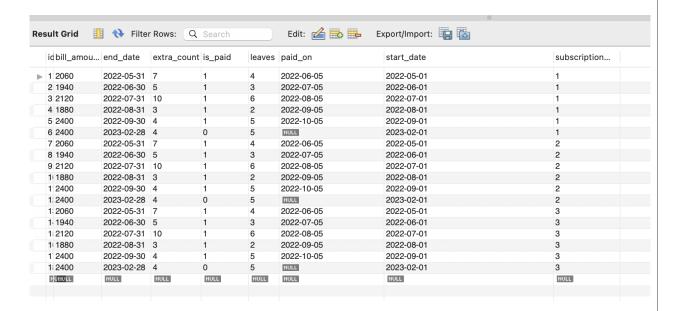
Customer Table:



Subscription Details:

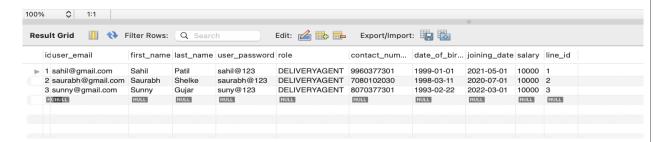


Bill History:

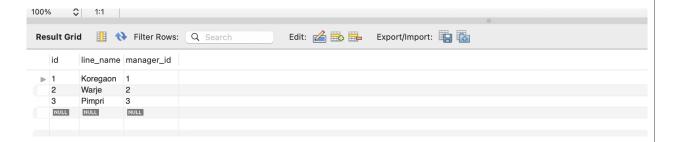


b. Delivery Agent:

Delivery Agent Table:

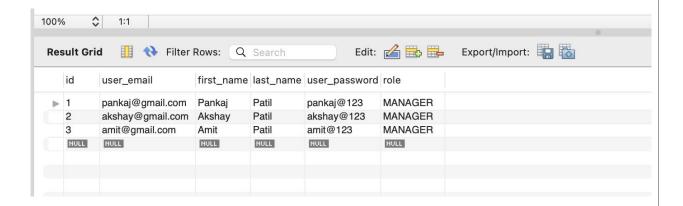


Line Number Table:

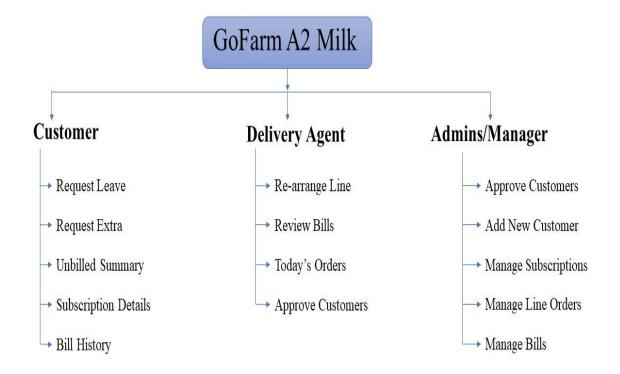


c. Admin

Manager List

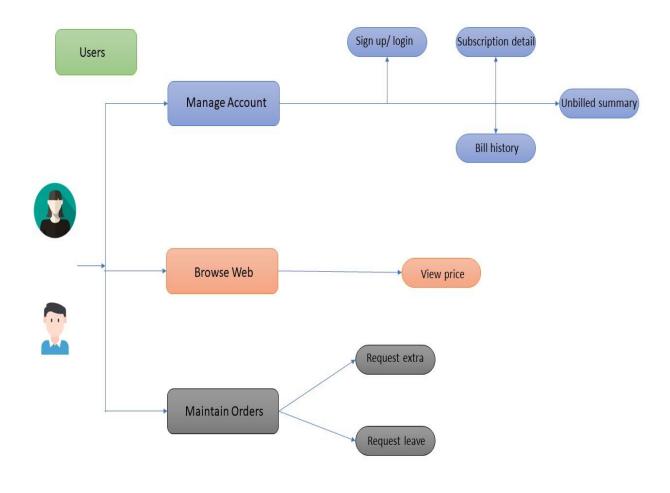


4.2 FUNCTIONAL DECOMPOSITION DIAGRAM

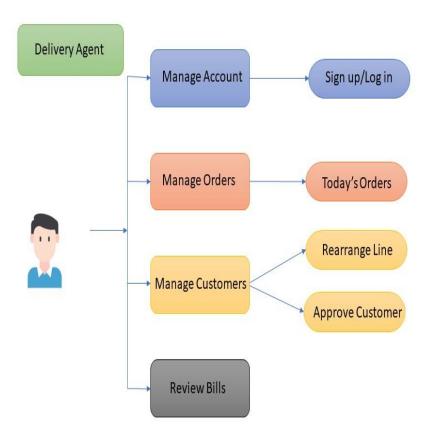


4.3 USE CASE DIAGRAM

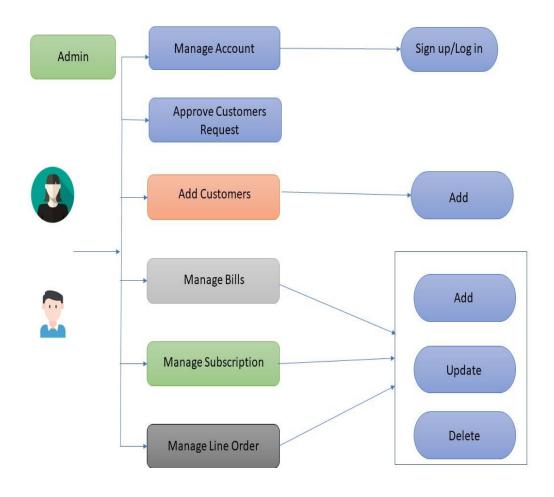
A. Users



B. Delivery Agent

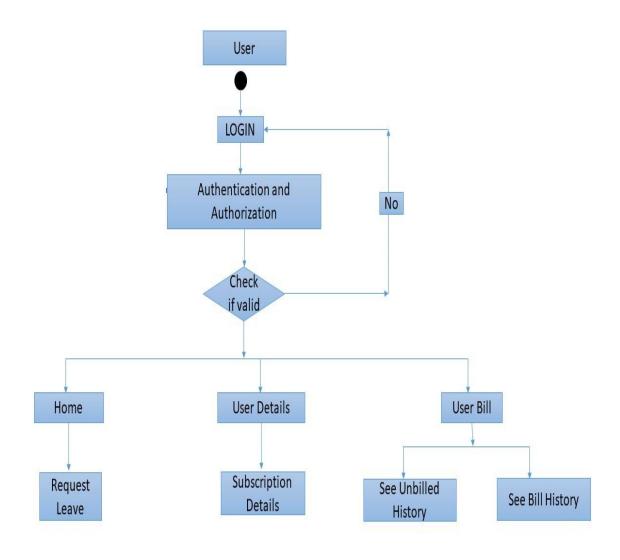


C. Admin

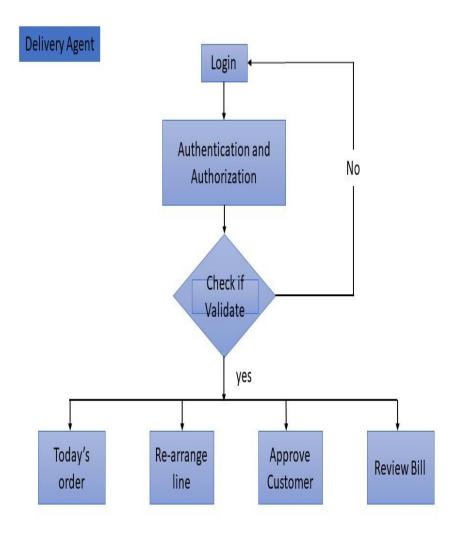


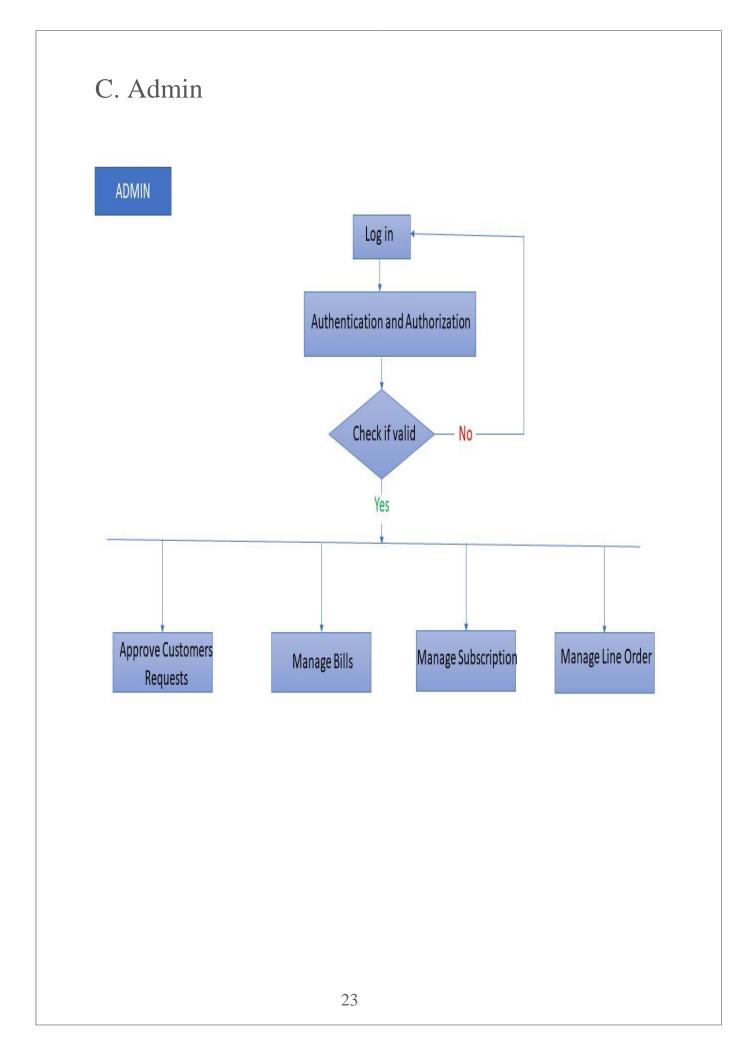
4.4. FLOW CHART

A. Users

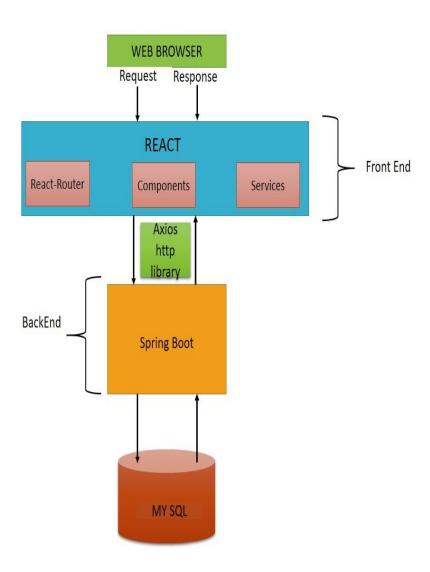


B. Delivery Agents





4.5. PROJECT ARCHITECTURE



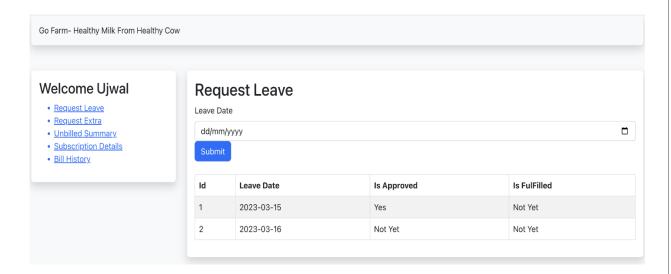
5. PROJECT SCREENSHOTS

Login:

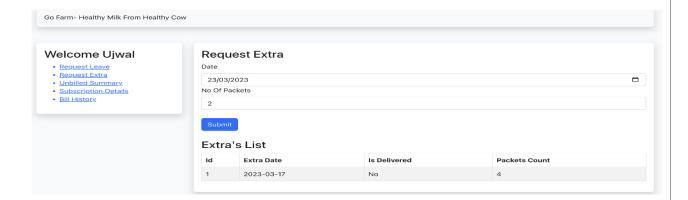


5.1. Customer

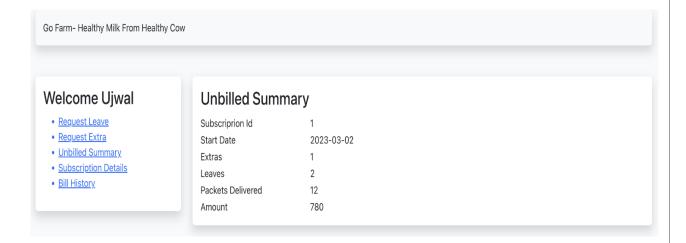
Request Leave:



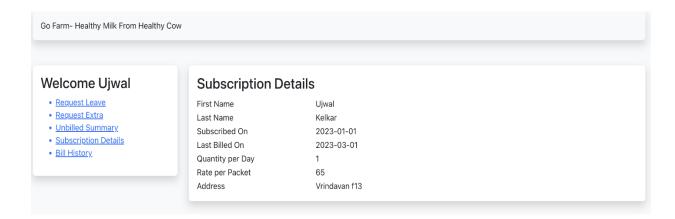
Request Extra:



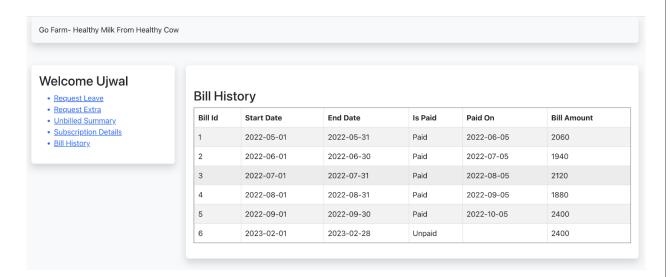
Unbilled Summary:



Subscription Details:

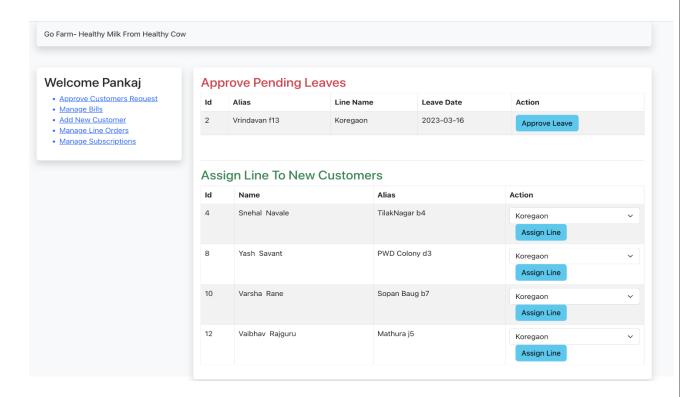


Bill History:



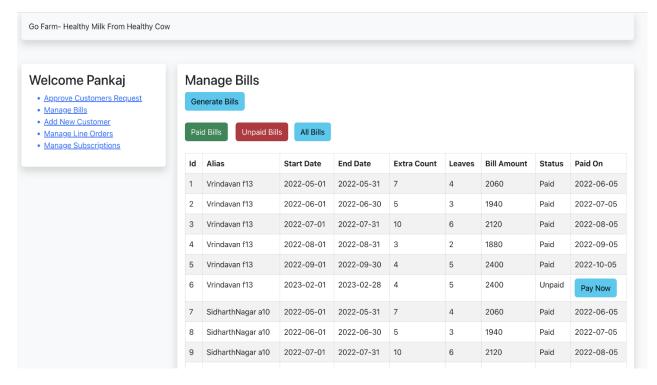
5.2. Admin

Approve Customer Request:

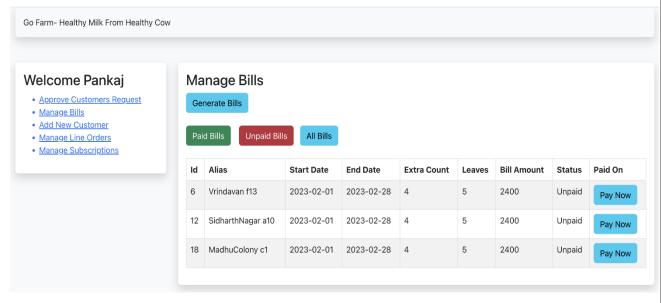


Manage Bills:

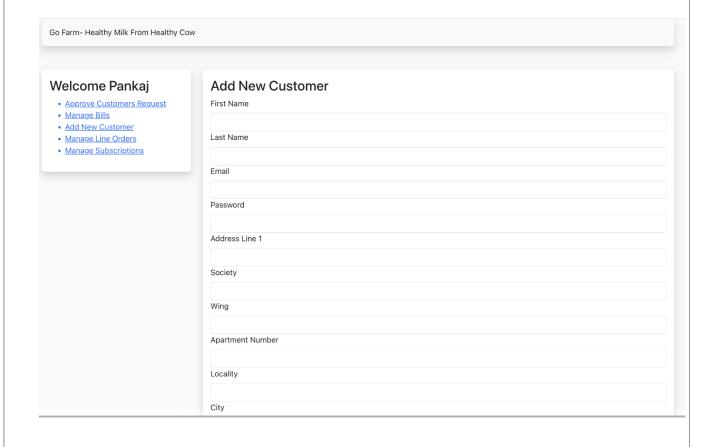
1. All Bills:



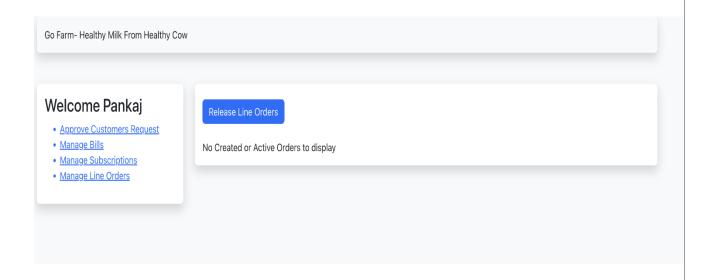
2. Unpaid Bills:

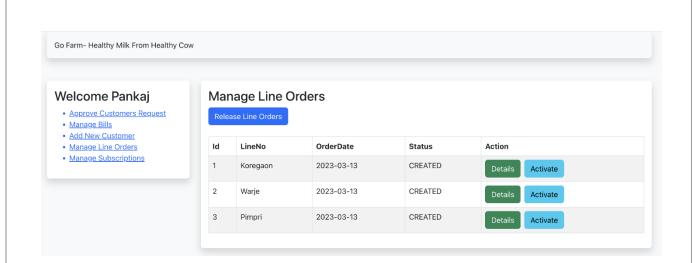


Add New Customer:

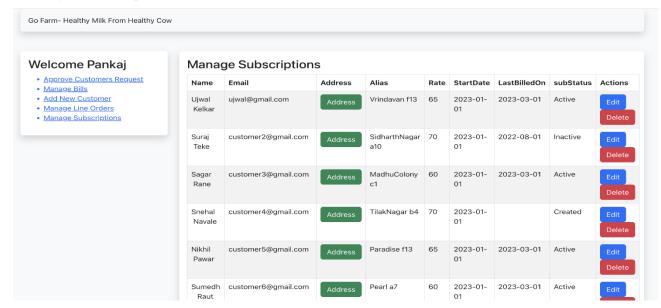


Manage Line Order:



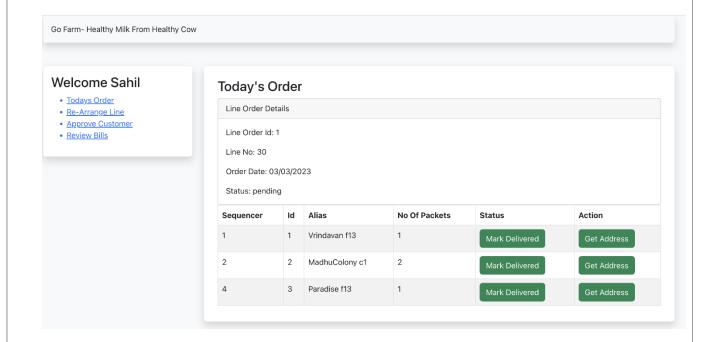


Manage Subscriptions:

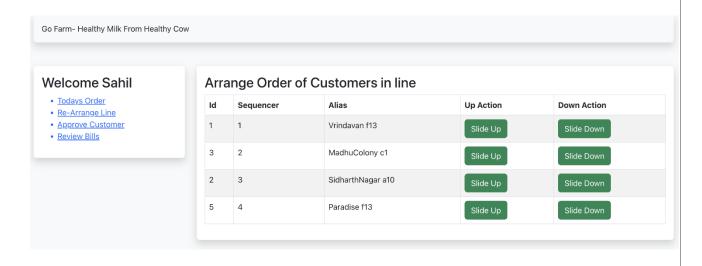


5.3. Delivery Agent

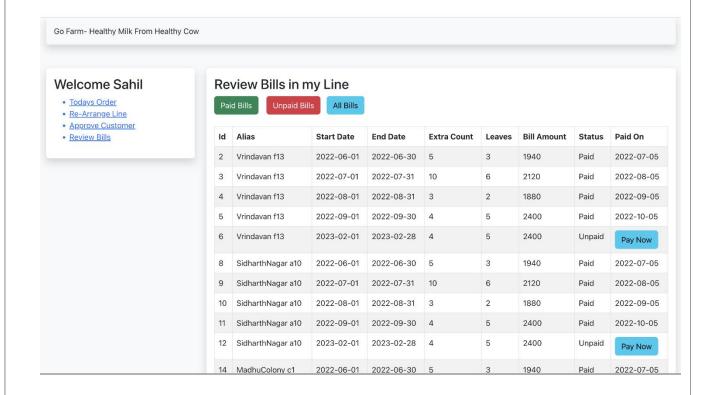
Today's Order:



Re-Arrange Line:



Review Bills:



6. TESTING

One of the main purposes of testing is to validate and verify that the system works as intended. No program or system design is perfect. However, if we implement the system without proper testing, then it may cause problems and lead to a bad user experience.

Testing and checking outcomes of each test gives us the best chance to detect and correct errors before the system is implemented in a production environment.

In the course of our project, we made an effort to manually test each component. In all cases, we obtained the desired results as demonstrated below.

A. CUSTOMER FEATURES TEST

#	Description	Outcome	Result
1.	Login as Customer	Fetched authenticated user details saved in database.	Passed
2.	Require Extra	Request for extra is send to the admin.	Passed
3.	Request Leave	Request for leave is send to the admin.	Passed
4.	See Subscription Details	Fetched subscription details of the selected customer from the database.	Passed
5.	Bill History	Bill history of customer for given period of time is fetched from database.	Passed
6.	View Unbilled Summary	Unbilled summary of customer from last paid date to today is fetched from database.	Passed
7.	Logout	The session was cleared.	Passed

B. ADMIN FEATURES TEST

#	Description	Outcome	Result
1.	Login as Admin	Fetched authenticated Admin details saved in database.	Passed
2.	Approve Customers Request	Request from customer for leave is approved and saved in database assign Line.	Passed
3.	Manage Bills	New bills is generated in database. And show unpaid and paid bills.	Passed
4.	Manage Subscriptions	CRUD operations can be performed on subscriptions.	Failed
5.	Manage Line Order	New Line for each delivery agent will be assign and will be updated in the database.	Passed
6.	Create new Customer	New customer will be created and saved in the database.	Passed
7.	Logout	The session was cleared.	passed

C. DELIVERY AGENT FEATURES TEST

#	Description	Outcome	Result
1.	Login as Delivery Agent	Fetched authenticated delivery agent details saved in database.	Passed
2.	Today's Order	Delivery details for a day will be fetched from the database and after delivering packets changes made in list will be reflect in the database.	Passed
3.	Re-arrange Line	By changing sequencer of deliveries, line will be re-arranged. Changes will be reflected in database.	Passed
4.	Approve Customer	Assign sequencer to new subscriber.	Failed
5.	Review Bills	If customer wants to pay directly to delivery agent then delivery agent will make changes to bills which will be reflected in the database. Check whether bill is paid or not.	Passed
7.	Logout	The session was cleared.	Passed

7. CONCLUSION

"GoFarm A2 Milk", an online milk distribution management system, was developed by our project team to simplify the delivery system of milk. We tried using the latest technologies that are cross-platform and robust. Each and every software we used was open-source in nature, which keeps the cost of production at a minimum.

We were also meticulous about the user experience aspect of our application so that navigating our website is an easy and seamless experience.

In conclusion, "GoFarm A2 Milk" as an application would definitely be a good choice for any milk distributor and can expand its business in growing online market. We are confident that the numerous features and visually appealing look of the application will certainly give a big boost to the business

8. FUTURE SCOPE

Using whatever we have learnt over the duration of this course, we tried to make our project as user-friendly and gave it as many features as possible in the limited time allotted for the project work. That said, there are certainly more features that can be added to our application. Some of those are mentioned below:

- 1. We can track the location of delivery agents where are they now and can also add feature of giving them rating and their feedback.
- 2. Customers can upvote/downvote/report feedbacks.
- 3. Customers could write detailed review of delivery agents.
- 4. This application could be further scaled for other milk product delivery.
- 5. Payment options can be added.
- 6. After subscription, an email or a message can be send as confirmation.
- 7. CAPTCHA can be added to login page.
- 8. An email notification can be sent to the customers for upcoming offers

9. REFERENCES

Following is the list of websites we referred during the course of our project:

- 1. https://getbootstrap.com/docs/5.1/getting-started/introduction/
- 2. https://reactjs.org/docs/getting-started.html
- 3. https://stackoverflow.com/
- 4. https://reactjs.org/
- 5. https://docs.oracle.com/en/java/javase/11/docs/api/
- 6. https://www.npmjs.com/
- 7. https://www.w3schools.com/
- 8. https://www.mysql.com/